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Demographics and Land Use around Tacoma Farmers' Markets

Providing Context for Increased Market Participation in Host Neighborhoods

Melora Shelton, UWT Certificate Program, Spring 2012



Background
Farmers' markets are a traditional part of our food landscape (Shakow 1981), but are perhaps more visible in recent years with the increased popular interest in local food economies and supporting local businesses such as small-scale farmers. These markets may be disproportionately patronized by higher socio-economic groups than are representative of the surrounding communities (e.g., Eastwood et al. 1999). However, they can provide a beneficial urban service by providing direct access between urban residents and area farmers for fairly priced fresh food (Shakow, 1981). There is evidence that establishing markets in areas with limited supermarket access can reduce the supermarket prices for fresh food as well as other items (Larsen & Gilliland, 2009). Markets are often cash operations which can present structural barriers for patronage by people reliant on Electronic Benefits Transactions (EBT). However, EBT access through vouchers or tokens have been successfully integrated into many markets, increasing access to fresh food as well as facilitating broader participation in the cultural elements of the markets (Jones and Bhatia 2011).

In Tacoma there are four markets: Broadway, Sixth Ave, South Tacoma, and Proctor. The first three are operated by the Tacoma Farmers' Market (TFM) organization and the Proctor Market is independently operated. TFM is planning to add a fourth market, Eastside, with a pilot market planned for later this year.

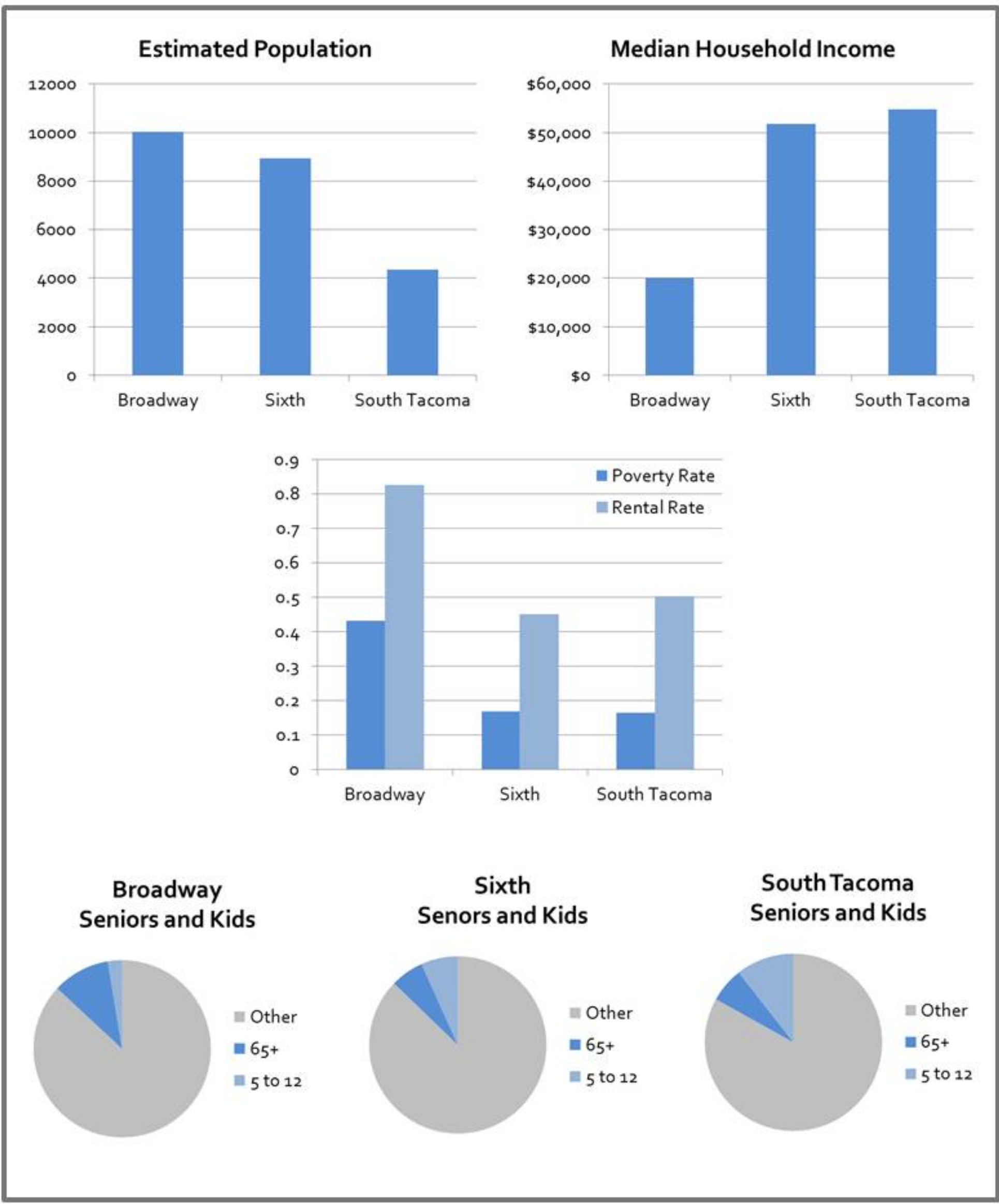
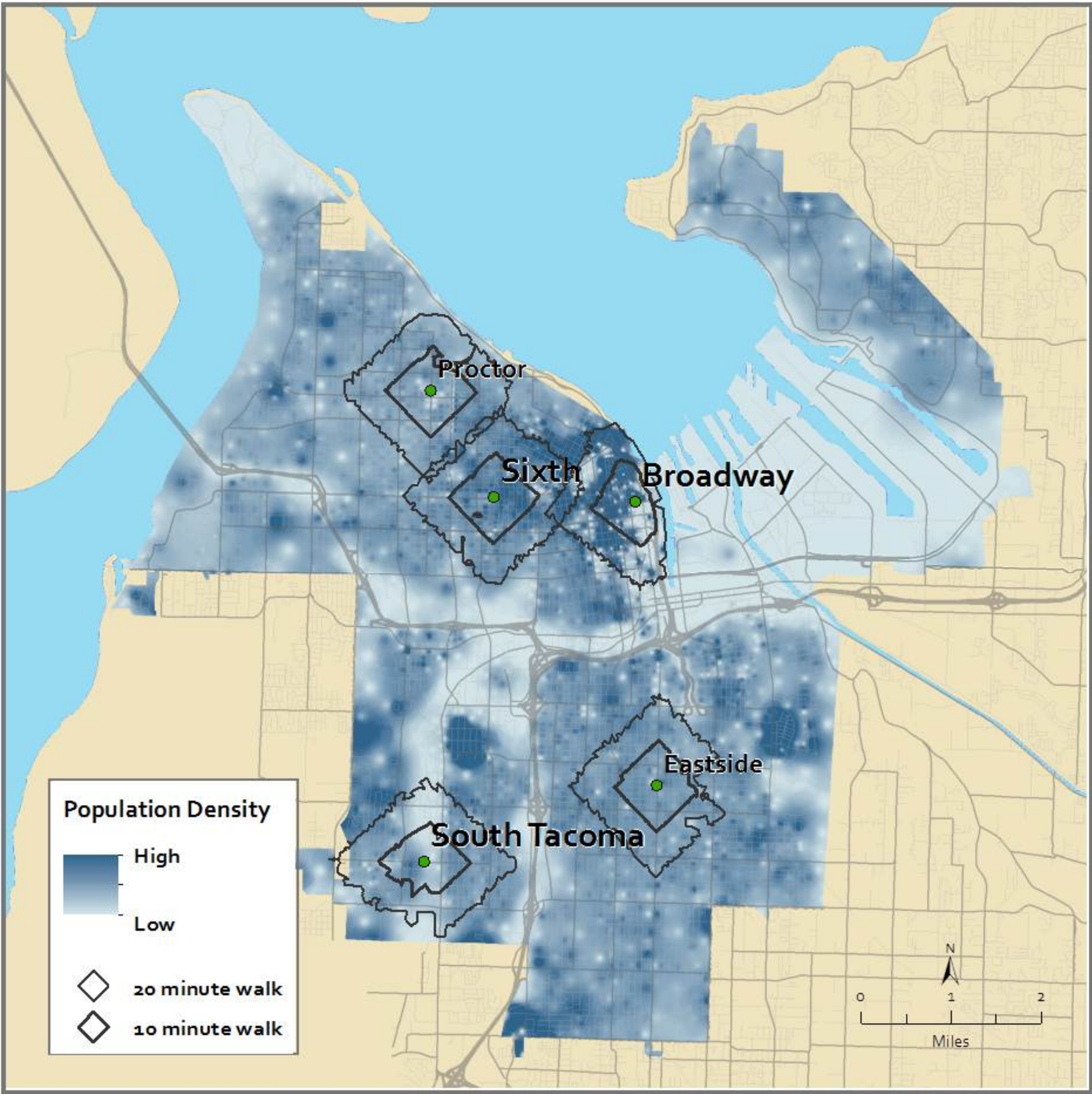
Unpublished TFM surveys from Broadway and Sixth Ave locations indicate that 40 to 50 percent of market patrons travel by foot or bicycle to the market, however in the case of Broadway which is a weekday, midday market most of these people are anticipated to be travelling from work rather than home. The TFM surveys indicate that less than 20 percent of shoppers at Broadway live within 1 mile of the market, in contrast with over 30 percent for Sixth Avenue. Based on this perception of low neighborhood participation, this year TFM is making a concerted effort to increase neighborhood participation at all of its markets. TFM has also started accepting SNAP, WIC, and Senior Vouchers via EBT in exchange for cash-value market tokens at each of its locations.

Purpose
To assist TFM to increase neighborhood participation by providing demographic and land use information for each existing location.

Objectives
To define "neighborhood" boundaries by defining walking service areas around each market location, and then use these boundaries to conduct basic analyses of both the demographic and land use specific to each market.

By identifying differences between market landscapes, TFM may be able to improve outreach and eventually market participation by considering unique elements of each of its locations.

For additional context, I conducted the same analysis for the independent Proctor and proposed TFM Eastside location. All results and complete project documentation are available at <http://sites.google.com/site/mesgiscertificate/final-project>.



Methods
Service Area: I used Network Analyst to create 5, 10, and 20 minute service areas based on Tacoma streets around each market location (at 3 minutes per hour, were equivalent to .25, .5, and 1 mile). Alleys and rights of way were excluded from potential walking areas. I created feature classes by market location on which to base the land use and demographic analyses.

Demographic Analysis: I sourced the most current digital data available through the US Census website. I brought tabular data at the county scale into ArcGIS (aggregated where needed), joined it to county scale point geographies, and I clipped to the City scale plus a 1-mile buffer for interpolation. I normalized the data as-needed to density or percentages and interpolated them using Inverse Distance Weighted (IDW) method to summarize by service areas using Zonal Statistics by Table.

Land Use (5 minute): I refined my analysis within service areas to better reflect likely walking patterns in proximity to the market. For Sixth Ave, I selected only those parcels also within City's designated Neighborhood Business District. Broadway and South Tacoma markets are not located in NBDs. For Broadway, I limited land use analysis to parcels on streets leading to the market along relatively flat slopes. For South Tacoma I limited analysis to parcels on arterials leading to the market and east of the pedestrian rail underpass at Hood and 66th.

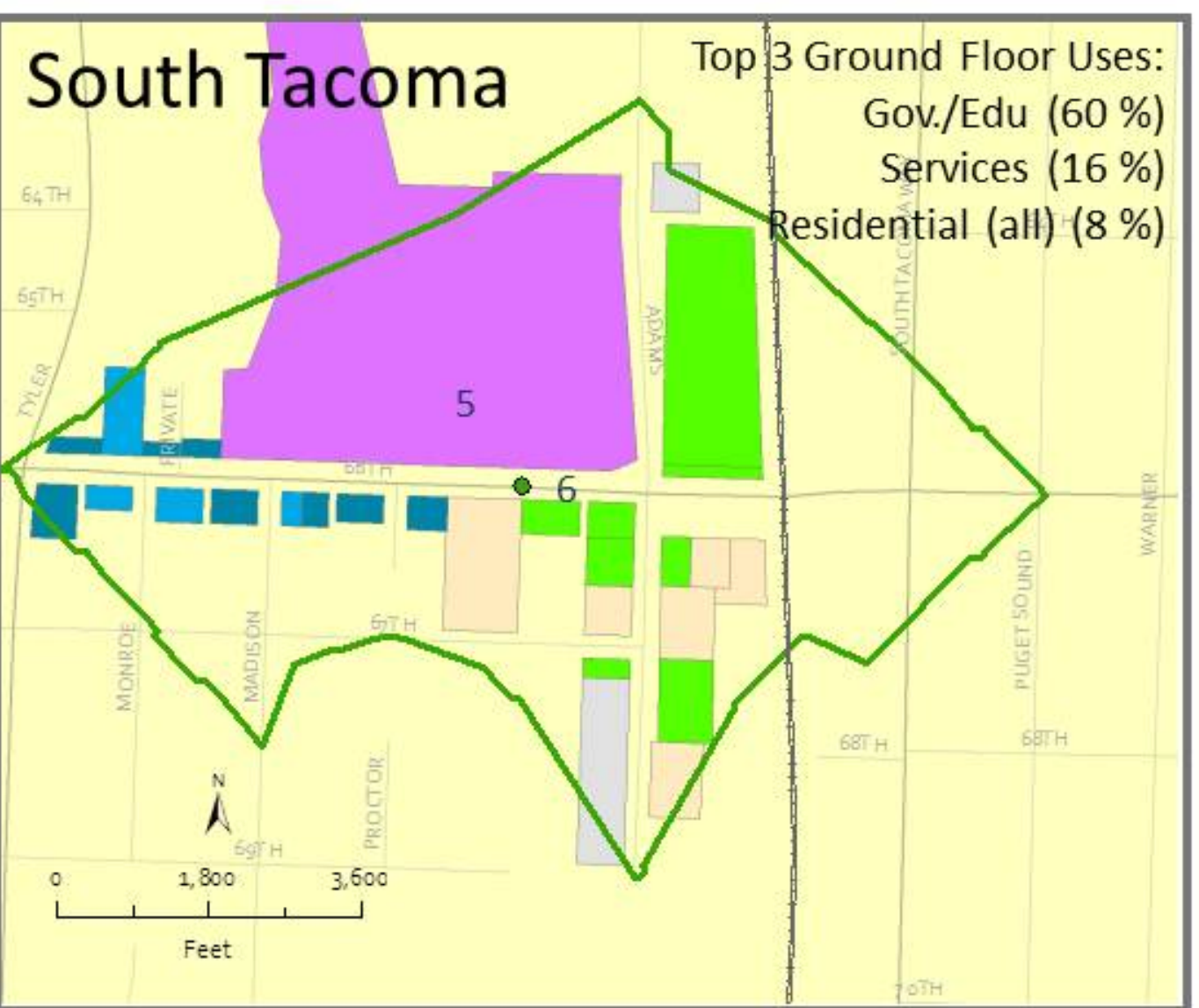
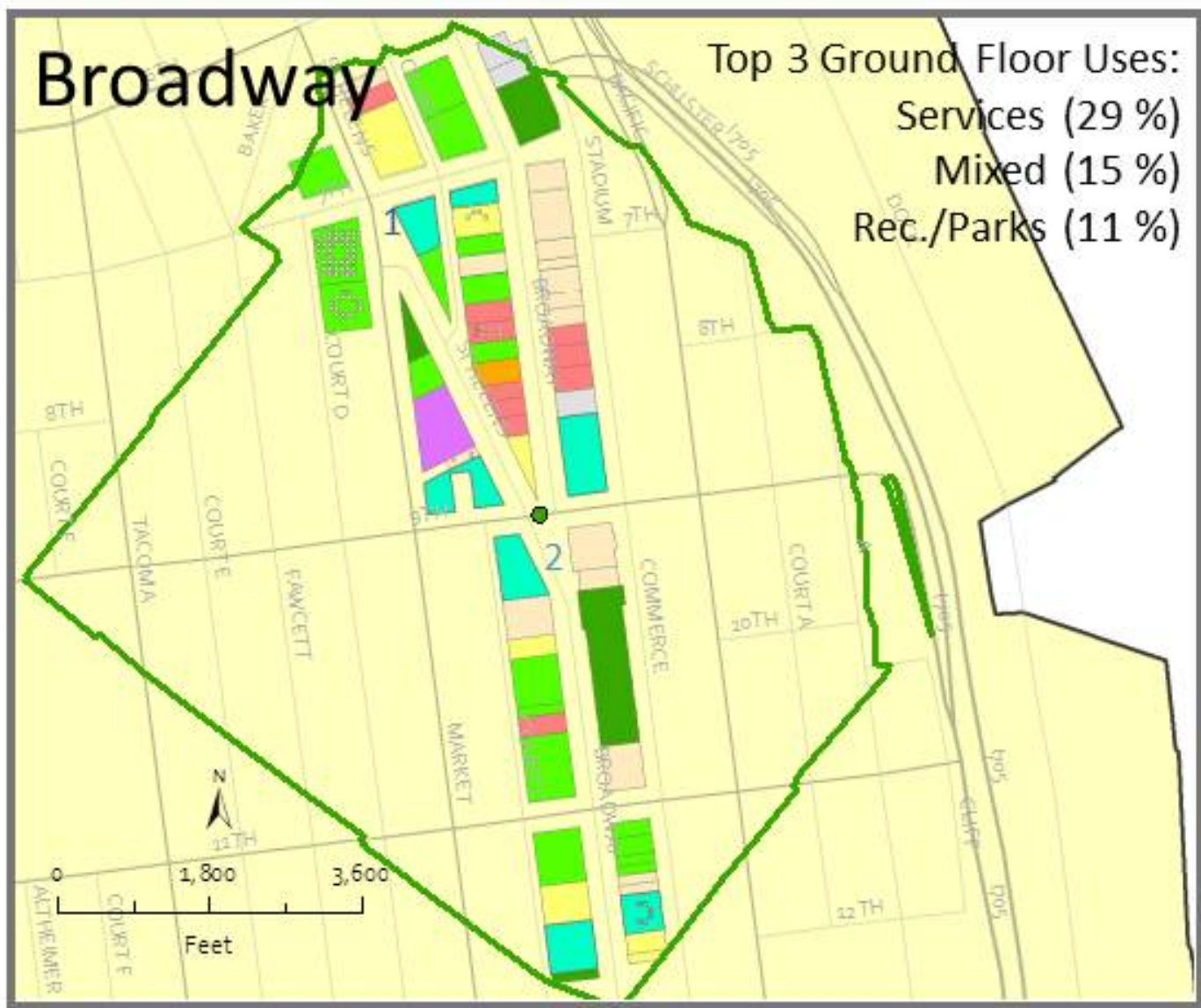
To address land use reflective of pedestrian experience, I reclassified the parcels based on ground floor use observed during a site visit. I used Summary Statistics and field calculator to determine percent areal coverage for each land use type.

Results
Broadway has the highest population of all three communities (~10,000). It is economically the most disadvantaged community, and has a relatively high proportion of seniors. Sixth Avenue and South Tacoma communities are comparable to each other with more economic advantage than Broadway. Sixth Avenue has about twice as many residents and South Tacoma has a higher proportion of children. In all three cases, there is great potential for community benefit from farmers' markets as an urban service.

At Broadway, particularly west of 9th, there are professional and personal services and a diverse retail community. Sixth Avenue has a restaurant scene as well as retail and services. While lacking commerce, South Tacoma is strongly community-oriented, located at the new Metro Parks STAR Center which shares a campus with the Boys and Girls Club and other community organizations.

Citations
Eastwood, D. B., Brooker, J. R., & Gray, M. D. (1999). Location and other market attributes affecting farmers' market patronage: the case of Tennessee. *Journal of Food Distribution Research*, 30(1), 63-72.
Jones, P., & Bhatia, R. (2011). Supporting equitable food systems through food assistance at farmers' markets. *American Journal of Public Health*, 101(5), 781-783.
Larsen, K., & Gilliland, J. A farmers' market in a food desert: Evaluating impacts on the price and availability of healthy food. *Health & Place* 15 (2009), 1158-1162.
Shakow, D. (1981). Municipal Farmer's Market as an Urban Service. *Economic Geography*, 57 (1), 68 - 77.

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1. Broadway location facing south from Broadway (south of S. 9th).



3. Sixth Ave location facing north from 6th and Pine.



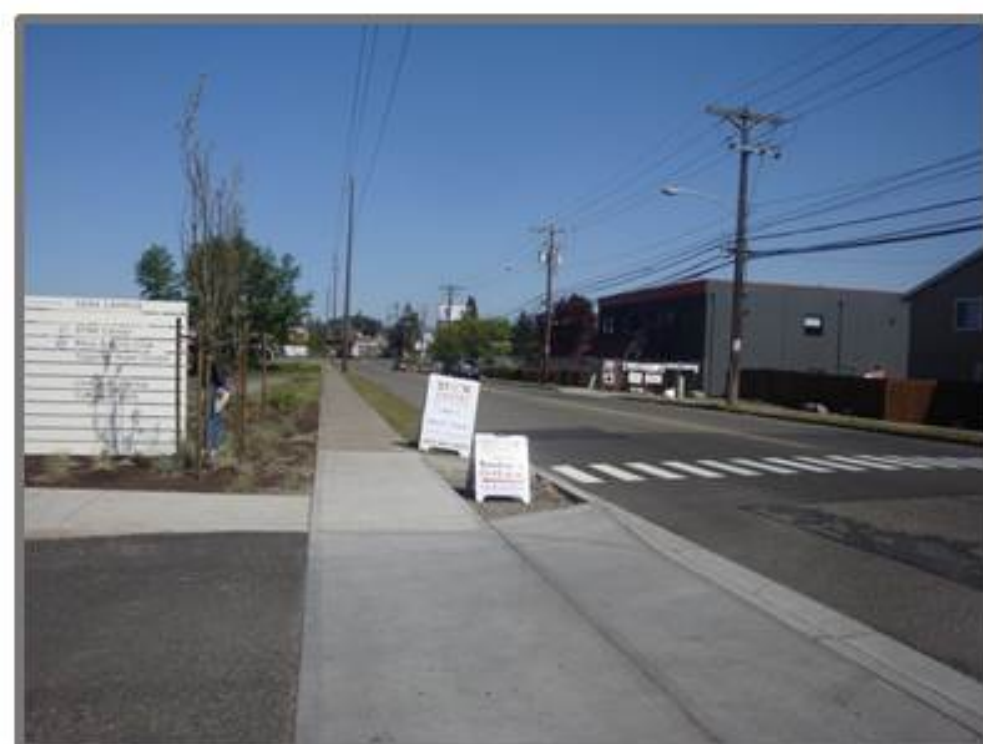
5. South Tacoma location, Star and Boys and Girls Club campus at S. 66th and S. Durango.



2. Broadway streetscape: St. Helens facing south with mixed use (services and retail) at ground level.



4. Sixth Ave streetscape: 6th Ave facing east with restaurants, retail, and services.



6. South Tacoma streetscape: S. 66th Ave east with services.